

Engineering Development Model

Voltage Controlled Oscillator

ZOS-ED10431/1

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : BR386

ELECTRICAL SPECIFICATIONS 50Ω				
Parameter	Min.	Typ.	Max.	Units
Frequency	1250		1350	MHz
Tuning Voltage	0		10	V
Power Output		+8		dBm
Phase Noise				
at 1 kHz offset		-74		dBc/Hz
at 10 KHz offset		-99		dBc/Hz
at 100 KHz offset		-120		dBc/Hz
at 1000 kHz offset		-140		dBc/Hz
Pulling at 12 dBm PK-PK all phases		0.02		MHz
Pushing at Vcc=5V±0.25V		1.6		MHz/V
Tuning Sensitivity		20 - 25		MHz/V
Harmonic Suppression		-35		dBc
3 dB Modulation Bandwidth		8500		kHz
Supply Voltage		12		V
Supply Current			140	mA

MAXIMUM RATINGS	
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Supply Voltage (Vcc)	+14V
Absolute Tuning Voltage (Vtune)	+12V

PIN CONNECTIONS	
VCC	1
V-TUNE	2
MAIN RF OUTPUT	3
AUX RF OUTPUT	4

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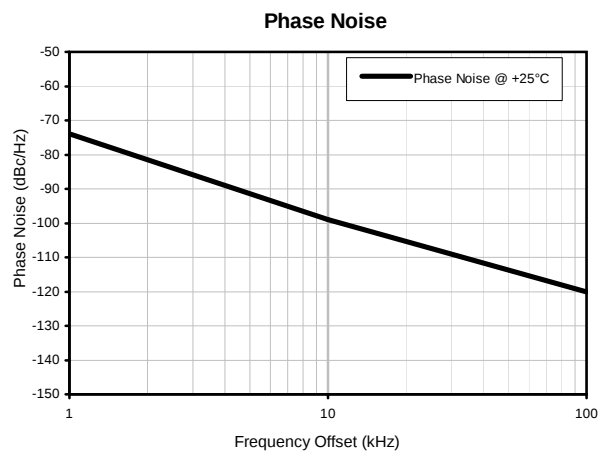
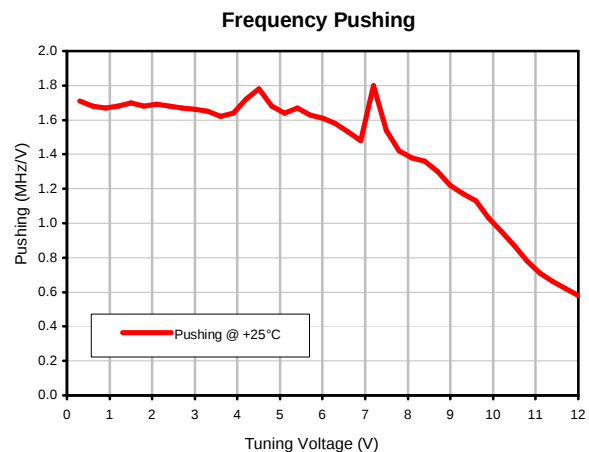
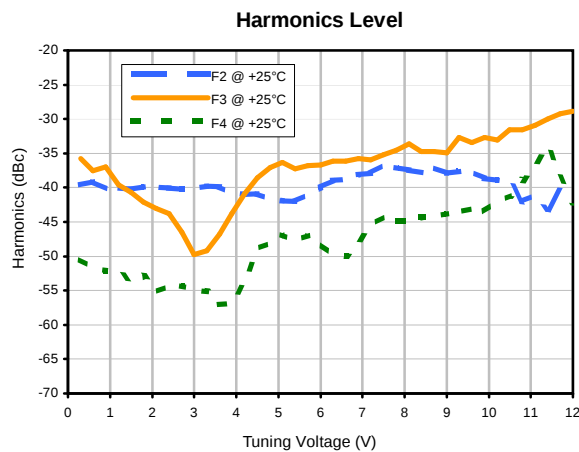
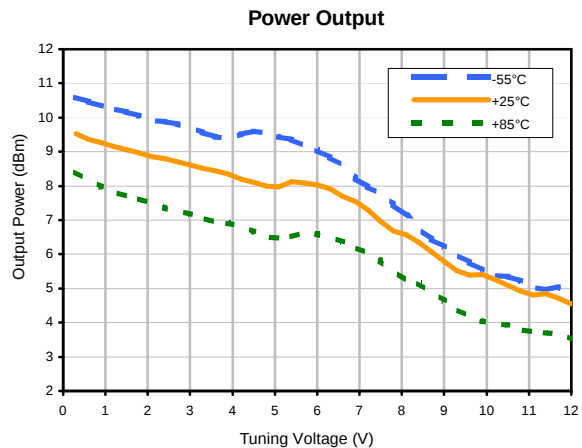
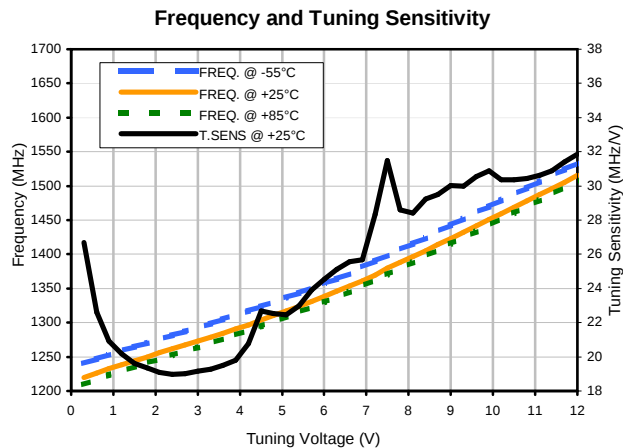
Typical Performance Data

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ OFFSET (KHz)	PHASE NOISE (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C	F2	F3	F4			
0.3	26.70	1240.3	1219.3	1209.1	10.59	9.53	8.40	-39.6	-35.8	-50.5	1.71	1	-74
0.6	22.60	1246.7	1226.0	1216.7	10.47	9.36	8.17	-39.1	-37.5	-51.7	1.68	10	-99
0.9	20.93	1253.0	1232.3	1223.2	10.33	9.26	7.98	-40.1	-37.0	-52.1	1.67	100	-120
1.2	20.17	1259.0	1238.4	1229.3	10.26	9.15	7.83	-40.1	-39.6	-52.0	1.68		
1.5	19.60	1264.9	1244.3	1235.2	10.17	9.06	7.70	-40.2	-40.7	-53.8	1.70		
1.8	19.33	1270.5	1250.1	1241.0	10.05	8.97	7.62	-39.9	-42.1	-52.9	1.68		
2.1	19.10	1276.2	1255.8	1246.8	9.92	8.86	7.49	-39.9	-43.1	-55.2	1.69		
2.4	18.97	1281.7	1261.5	1252.5	9.89	8.79	7.36	-40.0	-43.8	-54.4	1.68		
2.7	19.00	1287.3	1267.2	1258.3	9.80	8.70	7.26	-40.2	-46.5	-54.3	1.67		
3.0	19.17	1292.9	1272.9	1264.1	9.70	8.61	7.16	-40.1	-49.8	-54.9	1.66		
3.3	19.27	1298.6	1278.7	1269.9	9.56	8.52	7.05	-39.8	-49.2	-55.2	1.65		
3.6	19.50	1304.9	1284.6	1275.9	9.44	8.44	6.94	-39.9	-46.8	-57.1	1.62		
3.9	19.80	1311.3	1290.5	1281.9	9.42	8.34	6.91	-40.8	-43.8	-56.9	1.64		
4.2	20.77	1317.5	1296.7	1288.1	9.51	8.19	6.84	-41.0	-40.9	-53.8	1.72		
4.5	22.67	1323.7	1303.5	1294.5	9.60	8.10	6.66	-40.9	-38.5	-48.9	1.78		
4.8	22.53	1330.2	1310.3	1301.1	9.54	7.99	6.51	-41.7	-37.1	-48.0	1.68		
5.1	22.47	1336.8	1317.0	1308.3	9.44	7.98	6.47	-41.9	-36.3	-46.9	1.64		
5.4	23.00	1343.5	1323.9	1315.5	9.36	8.12	6.51	-42.1	-37.3	-47.7	1.67		
5.7	23.93	1350.4	1331.1	1322.7	9.17	8.09	6.62	-41.0	-36.8	-46.9	1.63		
6.0	24.57	1357.3	1338.5	1330.1	9.04	8.03	6.58	-40.0	-36.7	-48.2	1.61		
6.3	25.10	1364.3	1346.0	1337.7	8.83	7.92	6.49	-38.9	-36.2	-49.7	1.58		
6.6	25.57	1371.6	1353.7	1345.6	8.59	7.70	6.37	-38.8	-36.1	-50.0	1.53		
6.9	25.67	1381.6	1361.4	1353.6	8.24	7.54	6.20	-38.1	-35.7	-47.8	1.48		
7.2	28.33	1390.2	1369.9	1361.7	7.98	7.30	6.04	-37.9	-35.9	-45.5	1.80		
7.5	31.47	1398.4	1379.3	1370.0	7.76	6.97	5.82	-36.7	-35.2	-44.3	1.54		
7.8	28.60	1406.8	1387.9	1378.7	7.46	6.69	5.53	-37.1	-34.6	-44.9	1.42		
8.1	28.43	1415.4	1396.4	1388.4	7.13	6.57	5.24	-37.5	-33.6	-45.0	1.38		
8.4	29.23	1424.2	1405.2	1397.2	6.76	6.34	5.15	-37.8	-34.8	-44.3	1.36		
8.7	29.50	1433.3	1414.0	1406.0	6.43	6.07	4.89	-37.0	-34.7	-44.3	1.30		
9.0	30.03	1442.7	1423.1	1415.0	6.21	5.79	4.64	-37.9	-35.0	-43.8	1.22		
9.3	30.00	1451.9	1432.1	1424.0	5.99	5.52	4.38	-37.7	-32.7	-43.6	1.17		
9.6	30.53	1460.9	1441.2	1433.1	5.76	5.39	4.18	-37.7	-33.5	-43.0	1.13		
9.9	30.90	1469.9	1450.5	1442.4	5.53	5.40	4.04	-38.7	-32.6	-43.4	1.03		
10.2	30.37	1478.9	1459.6	1451.7	5.38	5.26	3.99	-38.9	-33.0	-42.0	0.95		
10.5	30.37	1487.9	1468.7	1460.8	5.35	5.09	3.92	-38.9	-31.6	-41.2	0.87		
10.8	30.43	1497.0	1477.8	1469.9	5.23	4.93	3.80	-42.0	-31.6	-38.9	0.78		
11.1	30.63	1506.0	1487.0	1479.1	5.04	4.80	3.73	-41.1	-30.9	-36.5	0.71		
11.4	30.87	1515.1	1496.3	1488.5	4.95	4.85	3.71	-43.2	-30.0	-34.0	0.66		
11.7	31.40	1524.3	1505.7	1498.0	5.06	4.71	3.66	-40.5	-29.2	-38.5	0.62		
12.0	31.87	1533.6	1515.3	1507.6	4.85	4.54	3.51	-41.0	-28.9	-42.3	0.58		

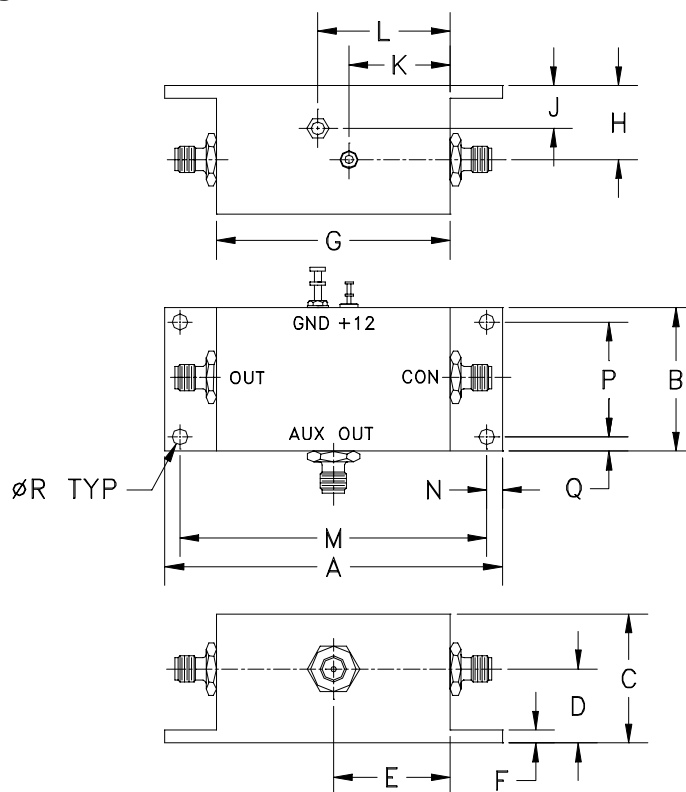
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Typical Performance Data



Outline Dimensions



CASE #	A	B	C	D	E	F	G	H	J	K	L
BR386	3.25 (82.55)	1.38 (35.05)	1.25 (31.75)	.71 (18.03)	1.13 (28.70)	.125 (3.18)	2.25 (57.15)	.71 (18.03)	.41 (10.41)	.98 (24.89)	1.28 (32.51)

CASE #	M	N	P	Q	R	WT. GRAM
BR386	2.950 (74.93)	.15 (3.81)	1.100 (27.94)	.14 (3.56)	.150 (3.81)	180

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I